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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/709,992 | 06/11/2004 | Sheng-Yuan Cheng | ADMP0005USA | 3991 |

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| EXAMINER | |
|---|---|
| RAMPURIA, SHARAD K | |
| **ART UNIT** | **PAPER NUMBER** |
| 2617 | |

| NOTIFICATION DATE | DELIVERY MODE |
|---|---|
| 11/01/2007 | ELECTRONIC |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/709,992 | CHENG, SHENG-YUAN | |
| | Examiner | Art Unit | |
| | Sharad Rampuria | 2617 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *01 August 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-7* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

I. The Art Unit location of this application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2617.

### *Disposition of the claims*

II. The current office-action is in response to the amendments filed on 1/17/06.

Accordingly, Claim 7 is newly appended claim, thus, Claims 1-7 are imminent for further assessment as follows:

### *Claim Rejections - 35 USC § 103*

III. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ginzburg et al. (US 20050053037) in view of **Trainin** [US 20040120292].

Claim 1

As for the invention "Receiving the pieces of frame data of the MSDU" Ginzburg teaches (Para 0015, lines 6) receiving data by station 20 (Fig. 1) having controller (34) (Para 0018, line 2).

As per the invention; receiving each piece of frame data, converting the received piece of frame data into a MAC Protocol data units (MPDU) and outputting MPDU" Ginzburg teaches (1) (Para 0021 line 3-4) the controller 34 causes or control the fragmentation of the frames *to be transmitted*), (2) the architecture (as per schematic diagram of Fig. 2) may be included in a controller 34, (3) (Para 0022, line 6) a packet 202 or other data unit may be transmitted is passed through TX scheduler 204, TX scheduler 204 may in embodiments be software or combination hardware and software controller that may divide a frame or other data unit into fragments 206 (MPDU)

Ginzburg teaches all the particulars of the claim except wherein for at least one of the plurality of pieces of frame data, converting begins prior to having received all of the plurality of pieces of frame data of the MSDU. However, Trainin teaches in an analogous art, that wherein for at least one of the plurality of pieces of frame data, converting begins prior to having received all of the plurality of pieces of frame data of the MSDU. (e.g. one slot at a time; ¶ 0036) Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Ginzburg including wherein for at least one of the plurality of pieces of frame data, converting begins prior to having received all of the plurality of pieces of frame data of the MSDU in order to provide a method for interfacing between a MAC sublayer and a physical layer.

Claim 2

As for the invention "the network system is a wireless network" Ginzburg teachings (P 1, paragraph 0001, line 12) refer to "a need to improve quality of transmissions on wireless networks in the face of noise, packet collisions and other factors."

Claim 3

As for the invention "the received piece of frame data is converted into the MPDU according to the IEEE 802.11 standard" Ginzburg teaches (Para 0012, lines 1-4) that the Request toSend (RTS) uses IEEE 802.11 This leads to conclude that WLAN uses 802.11 standard for every operation for wireless data communication. So we can conclude that MSDU to MPDU conversion also uses 802.11

Claim 4

As for the invention "an I/O interface for receiving a MAC service data unit (MSDU) which has plurality of pieces of frame data;" Ginzburg teaches architecture of Fig. 2 is incorporated in Controller 34(Paragraphs 0022, lines 3-5). MSDU is received by controller via STATION 20 (Fig. 1). The MSDU is fragmented and converted in MPDU as explained in (paragraphs 0011, lines 5-10).

As for the invention "a buffer for storing the pieces of frame data received by the I/O interface" Ginzburg teaches that Station 20 (Fig.1) includes storage used for buffering MSDU.

As for the invention "a control circuit for controlling operations of the network device and for converting the pieces of frame data stored in the buffer in to MAC protocol data units MPDUs)" Ginzburg teaches (Paragraphs 0017, lines 1-2) that station 20 includes wireless communication device. Station 20 also includes controller 34 (Fig. 1), which buffers frame data from AP 10 (Fig.l) and fragments and converts MSDU into MPDU as explained in previous claim 1.

Ginzburg teaches all the particulars of the claim except wherein for at least one of the plurality of pieces of frame data, converting begins prior to having received all of the plurality of pieces of frame data of the MSDU. However, Trainin teaches in an analogous art, that wherein for at least one of the plurality of pieces of frame data, converting begins prior to having received all of the plurality of pieces of frame data of the MSDU. (e.g. one slot at a time; ¶ 0036)

Claim 5

As for the invention "The Network device comprising an antenna for wirelessly transmitting the MPDUs" Ginzburg teaches (Fig. 1 ) that Station 20 includes antenna 39. This antenna is used to transmit MPDUs.

Claim 6

As for the invention "converts MSDU into MPDUs according to the IEEE 802.11" Para [0012] refers to IEEE Std. 802.11 "request to send" (RTS). This leads to conclude that WLAN uses 802.11 standard for every operation for wireless data communication. So we can conclude that MSDU to MPDU conversion also uses 802.11.

*Claim 7* is the apparatus, claims, corresponding to method claim 1 respectively, and rejected under the same rational set forth in connection with the rejection of claim 1 respectively, above.

***Response to Amendments & Remarks***

IV. Applicant's arguments with respect to claims 1-7 have been fully considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

V. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sharad Rampuria whose telephone number is (571) 272-7870. The examiner can normally be reached on M-F. (8:30-5 EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on (571) 272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000 or *EBC@uspto.gov*.

/Sharad Rampuria/
Patent Examiner
Art Unit 2617